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ABSTRACT

Although the technical colleges of South Carolina have an outstanding reputation, changing conditions create a need for improvement in these colleges to serve the students of the future. Improvements are needed in the quality of instruction and in the area of special educational programs. To improve the quality of instruction, it should become competency based; more emphasis should be placed on mathematics and science; a broad-based curriculum should be developed; more full-time faculty should be hired; equipment should be updated; faculty development should be stressed; new facilities must be built; and higher technical skills and knowledge levels must be sought, often through articulation with high school and four-year college programs. Special educational programs are needed in three areas: special schools to teach subjects such as entrepreneurship, service occupations, and information technology; remedial education for low-achieving students; and correctional education for incarcerated persons. A statewide study is needed to examine the current delivery system of vocational and technical education relative to the needs of the state. The study should result in a plan for these areas of educational improvement in South Carolina. Technical colleges have earned an enviable reputation, which deserves to be maintained and enhanced to help in raising the standard of living for South Carolina citizens. (KC)

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TECHNICAL EDUCATION IN SOUTH CAROLINA
The Imperative Need for
Educational Changes

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A Position Paper Resulting from a
Study Committee

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TECHNICAL EDUCATION IN SOUTH CAROLINA

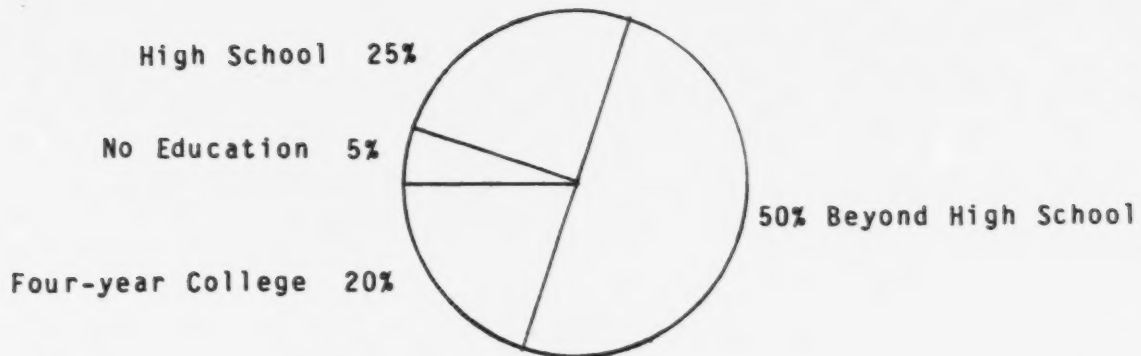
The Imperative Need for Educational Changes

Students and educators, in fact all South Carolinians, will feel the impact of fundamental changes in our educational system in the 1980's. Most of these changes will stem from (1) a growing awareness of, and dissatisfaction with, achievements of the public educational system, (2) a changing technological environment, and (3) a change to a world-based economy rather than a national based economy -- all of these and more will precipitate educational change.

The sooner that desirable changes can be made, the sooner the state can compete with other states and countries for desirable industry and commerce -- a competitiveness that is vital to the standard of living of the citizens of South Carolina.

A careful study of the make-up of the near-term working population reveals that only 20% of all jobs will require a four-year college degree. Approximately 50% will require formal training beyond the high school level, and roughly 25% will require at least a high school level of education. The remaining 5% will have no educational requirements at all. These percentages can be viewed graphically.

All Jobs
Amount of Education Needed



In order for South Carolina to compete with other states and countries we must do a quality job of educating students at the elementary, secondary, technical and four-year college levels of public education.

During the past two decades, the South Carolina system of technical and comprehensive education has developed an outstanding reputation. In recent years, however, conditions have changed that have adversely affected the technical education system. The level of economic support has decreased, and the socio-economic conditions upon which the system was conceived have changed. The time has come to focus attention not only on the elementary and secondary public education system but also on the technical education system.

QUALITY OF INSTRUCTION

Competency-based Instruction. Because of the pragmatic, world-of-work orientation of technical education, virtually all instruction should be competency based. Students should be provided instruction which will lead to specific skill levels. Graduates of technical education programs should be certified as to the skill level mastered.

Mathematics / Science Emphasis. In this time of rapid technological change and the changing occupational world, persons will increasingly be forced to make career changes throughout their working lives. Such changes infer a strong foundation in the mathematics and sciences area. Math and science skills of students in the technical programs should be reinforced and further developed at the technical college level.

Broad-based Curricula. The purpose of certificate and diploma programs at the technical colleges is to prepare students for immediate employment. These curriculum programs should be moved to a broad-based curriculum as opposed to specific training for a specific job within a specific firm. Broad-based programs will make students employable to a larger number of potential employers. The student will be better prepared for changes to come in this technologically changing environment.

Full-time Faculty. Part-time faculty have been used to replace full-time faculty in recent years due to budget cut-backs. Increased use of part-time faculty has resulted in a reduction of faculty advisement to students, most of which is given by full-time faculty. Part-time staff tend to be less involved with the college's programs than full-time faculty. Also, supervision may be spread too thinly since only full-time faculty are used for supervisory functions. The technical colleges urgently need to increase full-time faculty relative to part-time personnel.

Up-to-date Equipment. Recent reductions of already austere equipment budgets have resulted in postponements in upgrading and expanding of instructional equipment. Much of the instructional equipment purchased during the early start-up and expansion of technical colleges is obsolete. Further, expanding enrollments have resulted in reduced instructional workstations in science laboratories and shops during a time of rapidly changing technology. Word processors, business computers, computer graphics equipment, computer numerically controlled machine tools and other advanced equipment are becoming prevalent and must be a part of the instructional scene.

For instruction to be taught on "state-of-the-art" equipment it is imperative that much of the current instructional equipment be replaced or supplemented.

Staff Development / Updated Skills of Instructional Personnel.

Most of the instructors teaching employment skills are well prepared to teach in their respective areas. In many cases, they come directly from business and industry, where they have first-hand experience with technological developments affecting the workplace. During the past decade technology has accelerated at an unprecedented pace, and continued acceleration is anticipated. This acceleration means increased pressure on faculty members to keep up-to-date in their disciplines. For example, faculty in areas such as tool and die, machine tool technology, textiles, electronics engineering technology, industrial electronics, auto mechanics, and business related curricula must be trained in microprocessor and/or computer applications to provide relevant training for students.

Technical colleges should require instructional personnel to return to industry or acquire training to update their skills. The innovative centers created by the State Board for Technical and Comprehensive Education are a good start but only part of the solution. Funds are needed for substitute faculty and other costs to enable faculty to take advantage of training.

A near-term acceleration of staff development must be provided until faculty are brought up to date with technology. Beyond the near-term efforts, a program for systematic continuing professional development must be maintained. The state budget for the technical college system should set aside a percentage of each college's budget (as does the state of Florida) to provide for professional updating of faculty. A temporary acceleration of

staff development must be provided until most of the faculty are updated and then the program must be maintained on a regular basis.

Construction. Additional funds are needed in some instances to meet critical facility needs. Just as some of the public schools have become facility deficient, some of the technical colleges have postponed facility addition or repair during recent years. Priority must be given to enlarging, remodeling, and constructing shops, science laboratories, classrooms and libraries. Careful review can assure that the need cannot be met in any other acceptable manner.

High-tech Skill Level. Technical colleges must develop higher skill and knowledge levels to meet business and industrial needs. This requirement will necessitate the best trained faculty and the most up-to-date instructional equipment. Technical colleges may have to serve as advanced programs for students with basic training at secondary schools. Two years may be insufficient to train technicians to work competently in a high-tech occupation. This change will require fully articulated secondary/post-secondary programs for some subject areas. Students completing secondary vocational schools may receive advanced placement and have time for more in-depth study of high-tech areas.

To provide an economical pattern of education for our citizenry from available tax dollars, appropriate post-secondary, technical education programs must be articulated with four-year college programs that are state funded. Some technical college programs do not need to be articulated, since their content and purposes differ from four-year college programs. Other programs, however, are compatible with baccalaureate degree programs. Graduates of these programs should receive credit and advanced placement if their personal goals change from one of immediate employment to obtaining a four-year degree.

SPECIAL EDUCATIONAL PROGRAMS

Special Schools. For more than 20 years, special schools programs have provided training for new and expanding manufacturing jobs. The service and information sectors are now recognized as areas of substantial employment potential. Much of the employment potential is with small business. Yet the stated mission of the special schools' program excludes these employment possibilities. The special schools' objective, excellent at one time, should be modified to include the following:

- * Entrepreneurship and small business
- * Service occupations
- * Information technology occupations
- * Job-training needs stemming from new technology, even when the result may be a net reduction of jobs.

Remediation / Basic Education for Low-achieving Students.

The technical colleges need a near-term acceleration of funding to support high-cost remediation programs. Technical colleges, with their open-door policy, represent the last chance for a large number of South Carolina citizens to receive a post-secondary education. Many of those citizens are deficient in the basic skills of mathematics, reading, and writing, since they dropped out of the public schools or were not motivated when in school. These citizens represent a vast resource ready to be trained for useful employment, but they need highly individualized instruction to overcome deficiencies. Technical colleges are funding these high-cost remediation programs at the expense of technical programs, which are already funded at approximately 70 percent of the formula. These essential remediation programs should be budgeted as a separate element in formula funding to recover the actual costs of developmental education.

Corrections/Educational Programs for the Incarcerated.

The state has a responsibility for providing employment opportunities for those who have been or soon may be released from incarceration in a correctional institution. Most of these persons are beyond the age of high school students. In these times the occupational picture requires additional education beyond high school, and often requires additional education for those who may have been occupationally proficient prior to their incarceration. The technical education system appears ideally situated to offer occupational education programs to inmates. The technical coll-

eges should consider these persons within their clientele group, and the cost for such educational programs should also be budgeted separately from the educational budget for technical colleges.

NEED FOR MORE STUDY

A state-wide study is needed to examine the current delivery systems of vocational and technical education relative to the needs of the state. This study should result in a combined plan for vocational and technical education in South Carolina. The plan should address and clarify these topics:

- * Appropriate secondary vocational education subjects
- * Appropriate post-secondary occupational subject areas
- * Level of content and content to be mastered at the secondary and post-secondary programs
- * Adult vocational education
- * Primary service deliverers for specified client groups
- * Procedures and processes to insure post secondary/four-year college articulation for appropriate areas
- * Other items identified by the study group.

The study group should include representatives of the following:

- * Education Division, Office of the Governor
- * State Board for Technical and Comprehensive Education
- * Office of Vocational Education, State Board of Education
- * Commission on Higher Education
- * State Advisory Council on Vocational and Technical Education.

The plan should be acted upon by the appropriate state boards and agencies involved in the delivery of vocational and technical education.

SUMMARY

Technical education is a vital sector of South Carolina's public education. For all practical purposes, technical colleges provide the state with a two-year college system. In near-term benefits, the pay-back to the citizens and to the state are shorter for technical education than for other levels of education. Technical education is underfunded for the assigned mission.

Conditions have changed, and introspection is needed to clarify confusion, enhance cooperation, and maximize use of available resources.

Technical colleges have earned an enviable reputation, which deserves to be maintained and even enhanced to assist in upgrading the standard of living for our citizens.

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